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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,871	02/05/2004	Gerald H. Nesbit	WIC002USU	7232
45180	7590	08/15/2006	EXAMINER	
GRIMES & BATTERSBY, LLP 488 MAIN AVENUE, THIRD FLOOR NORWALK, CT 06851				AGBOTTAH, AWUDZI Z
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/773,871	NESBIT ET AL.
	Examiner	Art Unit
	Awudzi Z. Agbottah	2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 05 February 2004.  
 2a) This action is FINAL. 2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-14 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-14 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 05 February 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by McNicol (United States Patent Application Publication No. 2003/0078075 A1).

2. Consider claim 1. McNicol discloses an invention that can be used in various wireless LAN's including Bluetooth (wireless unlicensed band radio system) (Page 2, Paragraph 26, Lines 7-11). McNicol additionally discloses a system formed of at least three sector antennas that provide 360 degrees of coverage around the antenna (Page 1, Paragraph 8, Lines 1-12; Figure 2, Paragraph 28). The antennas are connected to a base station transceiver (wireless fidelity radio) (Page 1, Paragraph 8, Lines 1-4), and serving to transmit and receive information from and to said base station (Figure 2 and Paragraph 28).

Consider claim 2 as applied to claim 1 above. McNicol discloses a three sector antenna providing radio coverage over three equal 120 degree sectors (**Page 3, Paragraph 28, Lines 13-17**).

3. Consider claim 6 as applied to claim 2 above. McNicol discloses a base station transceiver (wireless unlicensed band radio) that he discloses may be used in the Bluetooth standard (**Page 2, Paragraph 26, Lines 7-11**). McNicol discloses the base station transceiver as being connected to a three sector antenna with each antenna element providing coverage over three equal 120 degree sectors (separate amplification paths) (**Page 3, Paragraph 28, Lines 1-17; Figure 2 and Paragraph 31**).
4. Consider claim 7 as applied to claim 6 above McNicol discloses a power amplifier with transmit and receive capabilities (solid state transmit/receive amplification unit) incorporated with each antenna (**Page 2, Paragraph 11, Lines 10-16**).
5. Consider claim 8 as applied to claim 7 above. McNicol discloses the transmit and receive amplification unit comprising a transmitter and receiver (**Page 3, Paragraph 30, Lines 2-4**) and a solid state switch for selecting the operating state of the transmitter and receiver (**Page 3, Paragraph 29, Lines 11-15**). Refer to **Figure 2**. The transmit and receive amplification unit comprise the core switch (#42), the transceiver unit (#30) and the power amplifier (#24).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over McNicol (**United States Patent Application Publication No. US 2003/0078075 A1**) in view of Nilsson (**United States Patent Application Publication No. US 2004/0164918 A1**).

9. Consider claim 3 as applied to claim 2 above. McNicol discloses the claimed invention but fails to disclose each of the sector antennas having a 120 degree angular separation from the other two antennas. However Nilsson discloses the antennas spaced 120 degrees from each other (**Page 2, Paragraph 27, Lines 6-9**). In light of Nilsson it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol and Nilsson for the purpose of having for each antenna, a specific angular separation and still provide 360 degree coverage around the antenna.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over McNicol (**United States Patent Application Publication No. US 2003/0078075 A1**) in view of Patton et al. (**United States Patent No. US 6,571,110 B1**).

10. Consider claim 4 as applied to claim 2 above. McNicol discloses the claimed invention but fail to disclose an "...unlicensed band radio includes a primary RF port and a secondary RF port, further including a passive two-way power divider incorporated in said primary RF port." However Patton et al. discloses a cryostat that is comprised of a cryoelectronic module (**Column 9, Lines 16-18**). Primary and secondary RF ports are contained in the cryostat (**Column 10, Lines 1-7; Figure 3**). Patton et al. additionally discloses power dividers being part of the cryoelectronic module (**Column 9, Lines 43-45; Figure 3**). In light of Patton et al. it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol and Patton et al. for the purpose of easily incorporating a three sector antenna into commercial unlicensed band radios.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over McNicol (**United States Patent Application Publication No. US 2003/0078075 A1**) in view of Patton et al. (**United States Patent No. US 6,571,110 B1**) and in further view of Judd et al. (**United States Patent No. US 6,597,325 B2**).

11. Consider claim 5 as applied to claim 4 above. McNicol and Patton et al. disclose the claimed invention but fail to disclose "...two of said antennas are connected to said power divider and the third of said antennas is connected to said secondary RF port. Wherein said power divider and said secondary RF port provide driving signals to said antennas." However Judd et al. discloses an antenna system comprised of multiple

antennas connected to a power splitter (**Column 3, Lines 64-67; Column 4, Lines 1-8; Figure 3**). The RF input feeds the antennas (**Column 4, Lines 7-8**). Judd et al. additionally discloses an antenna connected to an RF port (**Column 7, Lines 27-43**). Patton et. al discloses a secondary RF port that feeds an antenna via a coaxial cable (**United States Patent No. US 6,571,110 B1: Column 10, Lines 1-7: Figure 3**). In light of Judd et al., it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol, Patton et al. and Judd et al. for the purpose of efficiently feeding and connecting the antennas.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNicol (**United States Patent Application Publication No. US 2003/0078075 A1**) in view of Judd (**United States Patent Application publication No. US 2003/0071761 A1**).

12. Consider claim 9 as applied to claim 8 above. McNicol discloses the claimed invention but fail to disclose a "...voltage converter to supply the proper bias condition..." however Judd discloses DC bias tee (voltage converter) that provides the correct bias condition for the unlicensed band radio (**Page 3, Paragraph 33, Lines 14-21**). In light of Judd, it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol, Nilsson and Judd for the purpose of providing the operating voltage to the radio efficiently.

13. Consider claim 10 as applied to claim 9 above. McNicol discloses the claimed invention but fail to disclose "...power distribution circuitry, said circuitry directing DC power to said amplification units and said voltage converter. However Judd discloses a DC power supply that provides power to the amplification units and voltage converter (**Figure 4; Page 2, Paragraph 32-33**). In light of Judd, it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol and Judd for the purpose of efficiently sending power to the radio via the circuitry that will provide the proper bias condition.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNicol (**United States Patent Application Publication No. US 2003/0078075 A1**) in view of Judd (**United States Patent Application publication No. US 2003/0071761 A1**) and in further view of Smith et al. (**United States Patent No. 6,102,758**).

14. Consider claim 11 as applied to claim 10 above. McNicol, Nilsson and Judd combine to disclose the claimed invention but fail to disclose "...sector antennas, said amplification units and wireless fidelity radio and power distribution circuitry are all

enclosed within an environmentally sealed radome." However Smith et al. discloses the use of a radome to enclose parts of the antenna structure (**Column 5, Lines 33-62**). In light of Smith et al., it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol, Judd and Smith et al. for the purpose of not only using a radome to enclose and protect the antenna components from environmental stresses but to incorporate the radome to protect any other necessary components from environmental stresses.

15. Consider claim 12 as applied to claim 11 above. McNicol, Judd, and Smith et al. combine to disclose the claimed invention but fail to disclose "...unlicensed band radio is connected to a network interface by means of two sets of CAT-5 cable."

Nonetheless, the Examiner takes Official Notice of the fact that it is notoriously well known in the art that CAT-5 cable is used to provide high signal integrity. Therefore it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol, Judd, and Smith et al. for the purpose of providing high signal integrity.

16. Consider claim 13 as applied to claim 11 above. McNicol, Judd and Smith et al. combine to disclose the claimed invention but fail to disclose the use of a 12 gauge wire to connect the amplification units to the voltage converter.

Nonetheless, the Examiner takes Official Notice of the fact that it is notoriously well known in the art the use of 12 gauge wire to wire circuits and connect components.

Therefore it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol, Judd and Smith et al. for the purpose of connecting to wire circuits and connect components.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over McNicol (**United States Patent Application Publication No. US 2003/0078075 A1**) in view of Patton et al. (**United States Patent No. US 6,571,110 B1**) in view of Judd et al. (**United States Patent Application No. US 6,597,325 B2**) in further view of Nilsson (**United States Patent Application No. US 2004/0164918 A1**) and still further in view of Smith et al. (**United States Patent No. 6,102,758**).

17. Consider claim 14. McNicol discloses a system formed of at least three sector antennas that provide 360 degrees of coverage around the antenna (**Page 1, Paragraph 8, Lines 1-12; Figure 2, Paragraph 28**) in which the three sector antenna provides radio coverage over three equal 120 degree sectors (**Page 3, Paragraph 28, Lines 13-17**). In addition McNicol discloses a transmit and receive amplification unit comprising a transmitter and receiver (**Page 3, Paragraph 30, Lines 2-4**) and a solid state switch for selecting the operating state of the transmitter and receiver (**Page 3, Paragraph 29, Lines 11-15**). Refer to **Figure 2**. The transmit and receive amplification

unit comprise the core switch (#42), the transceiver unit (#30) and the power amplifier (#24). Lastly McNicol discloses a base station transceiver (wireless unlicensed band radio) (**Page 1, Paragraph 8, Lines 1-3**). McNicol discloses the base station transceiver as being connected to a three sector antenna with each antenna element providing coverage over three equal 120 degree sectors (separate amplification paths) (**Page 3, Paragraph 28, Lines 1-17; Figure 2 and Paragraph 31**).

McNicol discloses the claimed invention but fails to disclose a wireless unlicensed band radio, wherein said wireless unlicensed band radio includes a primary RF port and a secondary RF port, and further includes a passive two-way power divider incorporated in said primary RF port in which the third of the sector antennas is connected to the secondary RF port. However Patton et al. discloses a cryostat that is comprised of a cryoelectronic module (**Column 9, Lines 16-18**). Primary and secondary RF ports are contained in the cryostat (**Column 10, Lines 1-7; Figure 3**). Patton et al. additionally discloses power dividers being part of the cryoelectronic module (**Column 9, Lines 43-45; Figure 3**). In addition Patton et al discloses a secondary RF port that feeds an antenna via a coaxial cable (**United States Patent No. US 6,571,110 B1: Column 10, Lines 1-7: Figure 3**). In light of Patton et al., it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol and Patton et al. for the purpose of easily incorporating a three sector antenna into commercial unlicensed band radios.

McNicol and Patton et al. combine to disclose the claimed invention but fail to disclose "...two of said antennas are connected to said power divider..." However Judd

et al. discloses an antenna system comprised of multiple antennas connected to a power splitter (**Column 3, Lines 64-67; Column 4, Lines 1-8; Figure 3**). In light of Judd et al., it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol, Patton et al. and Judd et al. for the purpose of connecting a three sector antenna into a unlicensed band radio with only two RF ports.

McNicol, Patton et al., and Judd et al. combine to disclose the claimed invention but fail to disclose the sector antennas having a 120 angular separation from one another. However Nilsson discloses the antennas spaced 120 degrees from each other (**Page 2, Paragraph 27, Lines 6-9**). In light of Nilsson, it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol, Patton et al., Judd et al. and Nilsson for the purpose of having for each antenna a specific angular separation and still provide 360 degree coverage around the antenna.

McNicol, Patton et al., and Judd et al. and Nilsson combine to disclose the claimed invention but fail to disclose "...an environmentally sealed radome within which said sector antennas, said amplification units and said wireless unlicensed band radio are enclosed and protected." However Smith et al. discloses the use of a radome to enclose parts of the antenna structure (**Column 5, Lines 33-62**). In light of Smith et al., it would be obvious to one of ordinary skill in the art to combine the teachings of McNicol, Patton et al., Judd et al., Nilsson and Smith et al. for the purpose of not only using a radome to enclose and protect the antenna components from environmental stresses but to incorporate the radome to protect any other necessary components from environmental stresses.

***Conclusion***

18. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
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401 Dulany Street  
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19. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Awudzi Z. Agbottah whose telephone number is (571) 270-1114. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone

number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*Awudzi Agbottah*

A.Z.A./aza

  
RAFAEL PEREZ-GUTIERREZ  
PRIMARY EXAMINER  
3/4/06

August 1, 2006